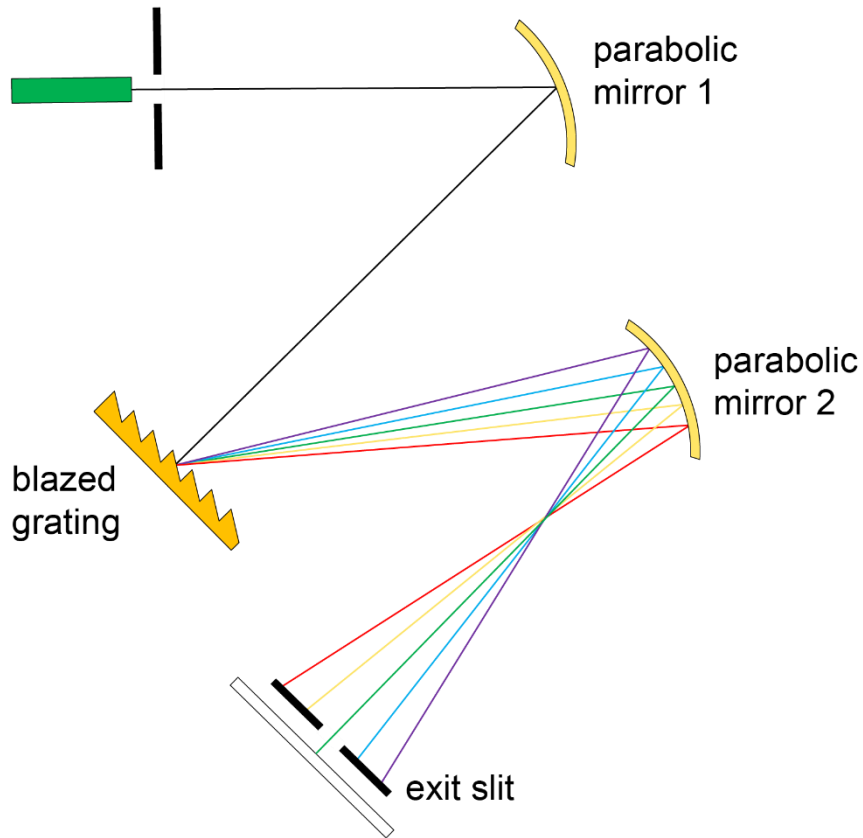


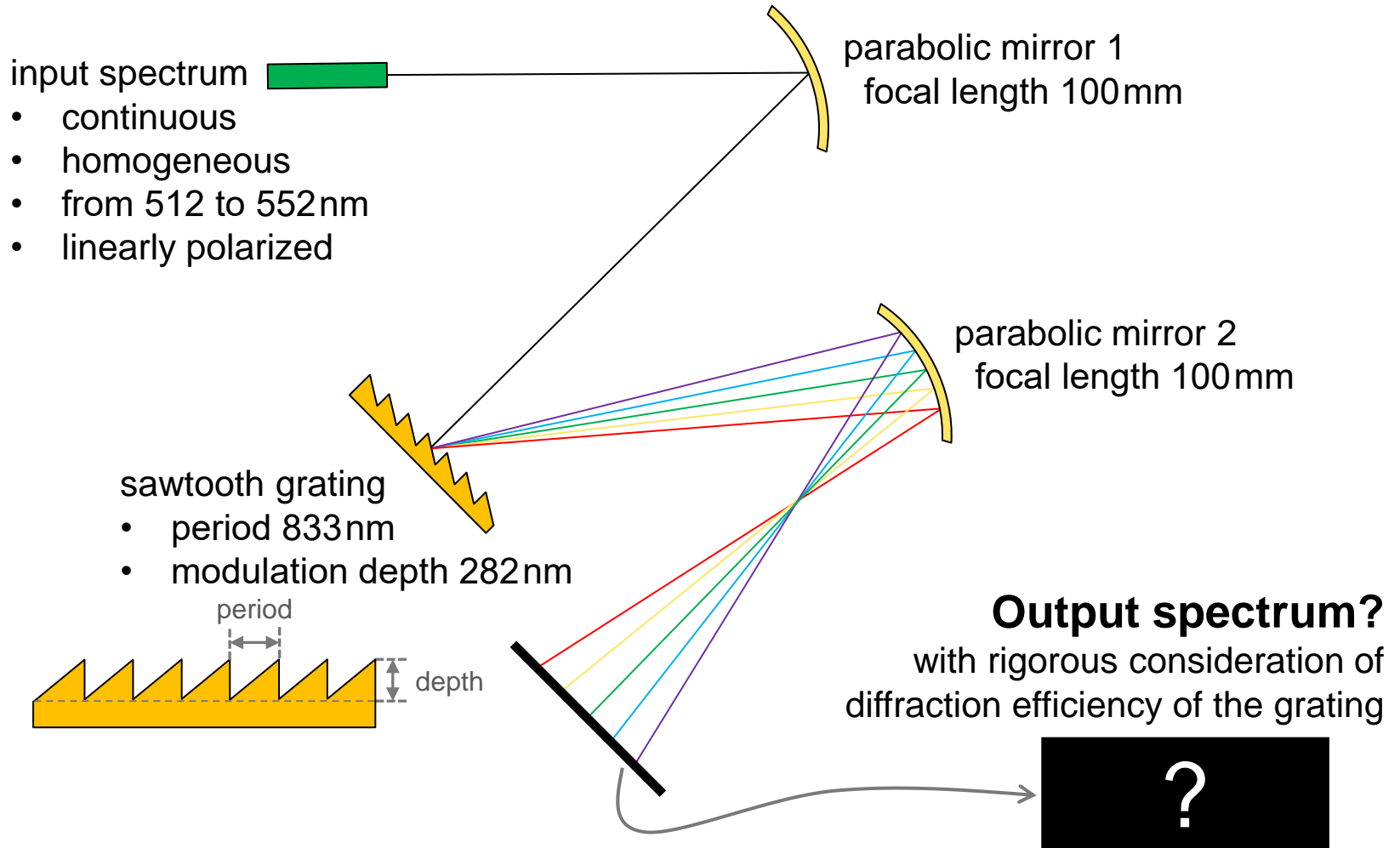
Czerny-Turner Setup

Abstract



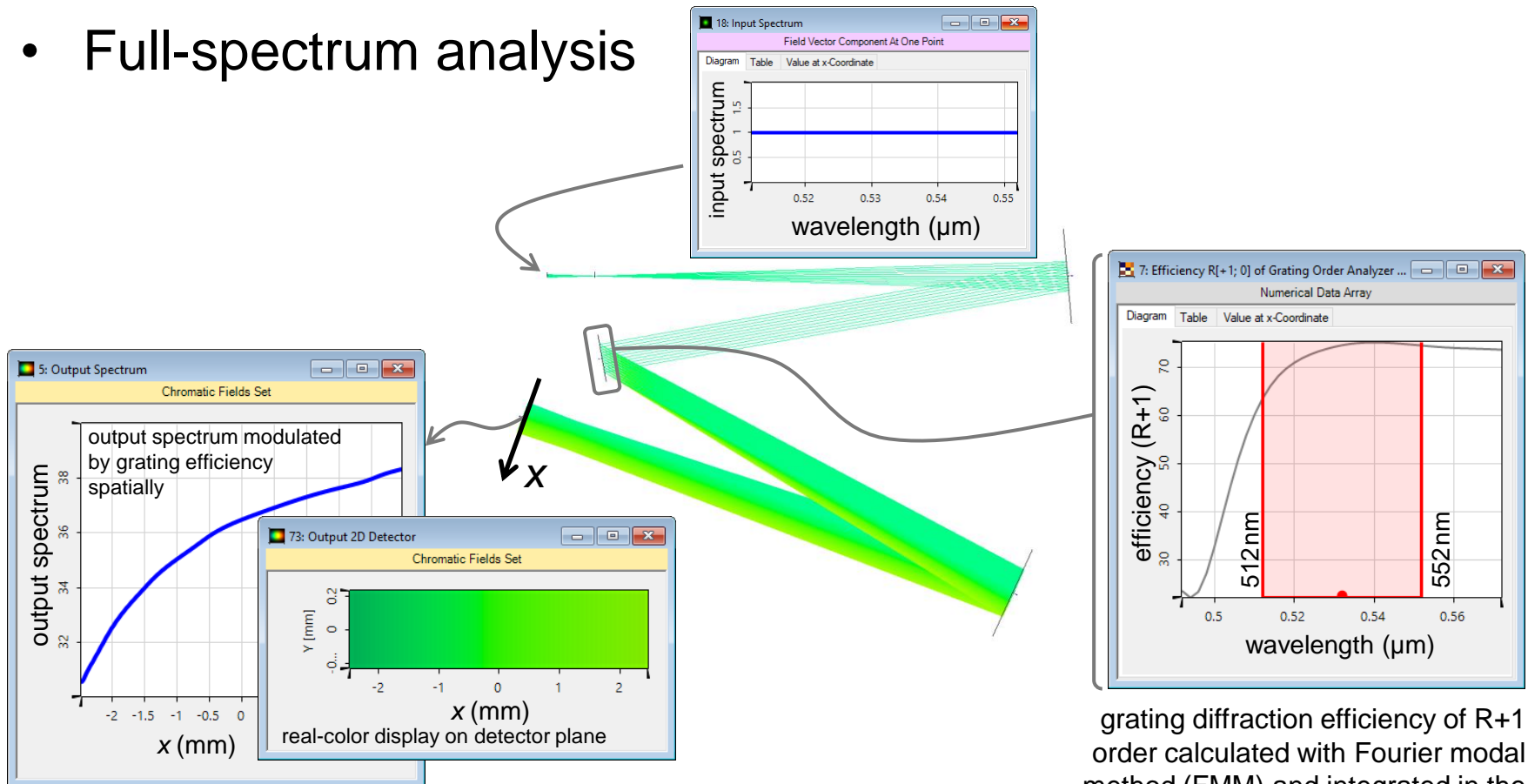
Czerny-Turner setup is widely used to analysis the spectral information of light sources. Typically, a parabolic mirror is used to collimate the source first, and then a diffraction grating will spatially separate the colors. By setting an exit slit properly, a specific color can be selected. A simulation of the complete Czerny-Turner setup, including real reflective mirrors and diffractive gratings is presented, especially with the grating modeled with Fourier modal method (FMM).

Modeling Task



Results

- Full-spectrum analysis

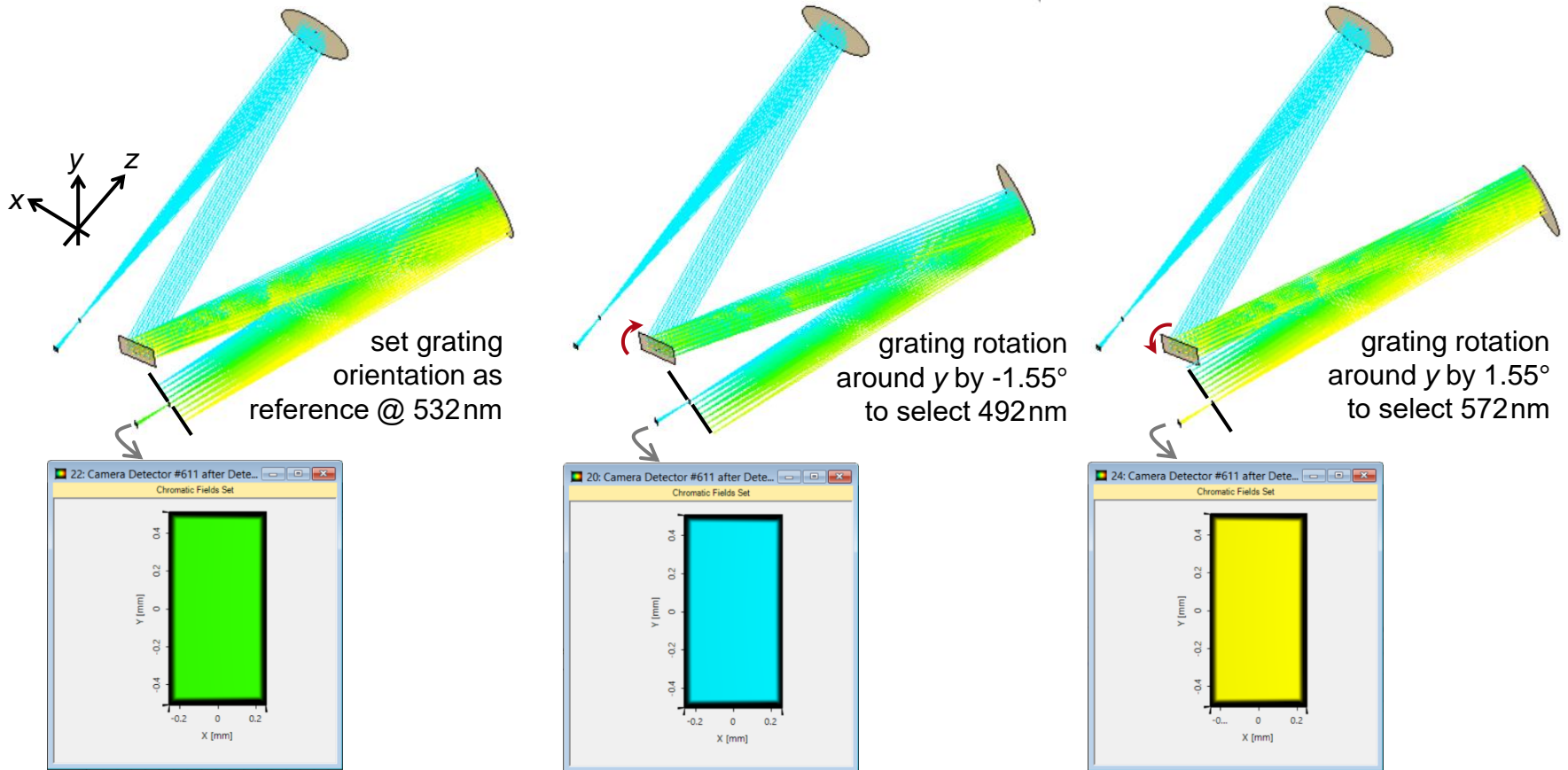


simulation with 400 wavelengths takes ~ 470 s
single-wavelength simulation takes ~ 1 s

grating diffraction efficiency of R+1 order calculated with Fourier modal method (FMM) and integrated in the system simulation

Results

- Wavelength selection by exit slit



Document Information

title	Czerny-Turner Setup
version	1.0
VL version used for simulations	7.0.3.4
category	Application Use Case
